



INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PAB/44670.WO01	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/02492	International filing date (day/month/year) 09.06.2003	Priority date (day/month/year) 07.06.2002
International Patent Classification (IPC) or both national classification and IPC F16L21/06		
Applicant TAYLOR KERR (COUPLINGS) LIMITED et Al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 07.01.2004	Date of completion of this report 20.08.2004
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EXAMINATION REPORT**

International application No. **PCT/GB 03/02492**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-11 as originally filed

Claims, Numbers

1-11 filed with telefax on 15.07.2004

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

see separate sheet

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: CH 676 875 A (STRAUB IMMANUEL)

D2: DE 89 12 207 U (HOCHSCHULE FÜR ARCHITEKTUR UND BAUWESEN)

2. The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):

a pipe coupling (10) for connecting together the ends of two pipes (12,13), comprising a tubular casing (11), having circumferentially extending end flanges (19,20) projecting inwardly from the axial ends of the casing (11), a tubular sealing sleeve (21) inside the casing (11), tensioning means (18) for tightening the casing (11) around the sealing sleeve (21), and frusto-conical gripping rings (28) located within the casing (11) at opposite ends of the casing (11), the inner edges of the gripping rings (28) being formed with teeth (28'), the casing (11) comprising a strip of metal formed into a tube with a gap (11') extending longitudinally of the casing (11), the tensioning means (18) interconnecting the ends of the strip, the arrangement being such that when the coupling (10) is placed around the ends of two pipes (12,13) to be connected and the tensioning means (18) are tightened the casing (11) presses the sealing sleeve (21) against the pipe ends (12,13) to form seals, and forcing the teeth (28') on the gripping ring (28) to bite into the surface of the pipes (12,13) to grip the pipes (12,13), characterised in that the strip has radially projecting flanges (14,15) extending longitudinally of the casing (11) on opposite sides of the gap (11'), the two radially projecting flanges (14,15) being placed between two reinforcing members (16,17) which extend substantially the length of the coupling (10), the tensioning means (18) passing through sets of aligned holes in the reinforcing members (16,17) and the radially projecting flanges (14,15), the reinforcing members (16,17) each having an angled cross-section, a web portion through which the holes for the tensioning means (18) pass, and a flange running along the longitudinal edge of the web portion that is nearer to the axis of the coupling.

- 2.1 The subject-matter of claim 1 differs from this known pipe coupling in that:

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- the gap extending longitudinally of the casing extends between the free ends of the strip,
- the free ends of the strip are bent outwardly to form the radially projecting flanges,
- the flange of the reinforcing member bears against the tubular portion of the casing.

2.2 The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

3. One problem to be solved by the present invention may be regarded as reducing distortion of the flanges due to high internal pressure.

3.1 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Due to the fact that the flange of the reinforcing member bears against the tubular portion of the casing, no bending force which could distort said flange is provided.

This solution does not follow plainly or logically from the closest prior art alone. Although document D2 discloses the flange of the reinforcing member bearing against the tubular portion of the casing, the skilled person would be prevented from modifying D1 to include said feature because D2 is particularly designed for glass pipes and thus lacks gripping rings. Hence, D2 is not lying in the same or neighbouring technical field to D1. Moreover, no teaching is available in D2 addressing said problem. Consequently, there is no teaching in the prior art as a whole that would prompt the skilled person, faced with the technical problem, to modify the closest prior art while taking account of that teaching, thus arriving at something falling within the terms of the claim.

4. Claims 2-11 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

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CLAIMS

1. A pipe coupling for connecting together the ends
of two pipes, comprising a tubular casing (12), a
tubular sealing sleeve (13) inside the casing, and
5 tensioning means (25) for tightening the casing
around the sealing sleeve, the arrangement being
such that when the coupling is placed around the
ends of two pipes to be connected and the tensioning
means are tightened the casing presses the sealing
10 sleeve against the pipe ends to form seals, the
casing (12) comprising a strip of metal formed into
a tube with a gap (14) extending longitudinally of
the casing between the free ends of the strip, the
tensioning means (25) interconnecting the free ends
15 of the strip, characterised in that the free ends of
the strip are bent outwardly to form radially
projecting flanges (15) extending longitudinally of
the casing on opposite sides of the gap (14), the
two flanges being placed between two reinforcing
20 members (20), the tensioning means passing through
sets of aligned holes (30, 31, 32, 33) in the
reinforcing members (20) and the flanges (15), the
reinforcing member having an angled cross-section
and extending substantially the length of the
25 coupling.

2. A pipe coupling according to claim 1 in which
the casing has circumferentially extending end
flanges (17) projecting inwardly from the axial ends
30 of the casing.

3. A pipe coupling according to claim 1 or 2 in

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which each reinforcing member has a web portion through which the holes (30) for the tensioning means pass, and a flange (21) running along the longitudinal edge of the web portion that is nearer to the axis of the coupling, the flange bearing against the tubular portion of the casing.

4. A pipe coupling according to any of the preceding claims in which the reinforcing member has a channel-shaped cross section with flanges (21) running along both longitudinal edges of the web portion.

5. A pipe coupling according to any of the preceding claims in which frusto-conical gripping rings (50) are located within the casing at opposite ends of the casing, the inner edges (54) of the gripping rings being formed with teeth (52).

6. A pipe coupling according to any of the preceding claims in which there are two sets of aligned holes (30, 31, 32, 33) and the tensioning means comprise two screw bolts (25) and nuts (34).

7. A pipe coupling according to claim 6 in which the nuts (34) are of a size that fits between the sides (21) of the U-shaped member (20) so as to prevent rotation of the nuts.

8. A pipe coupling according to any of the preceding claims in which a backing ring (55) is provided inside the casing adjacent each gripping ring (50) between the gripping ring and the sealing sleeve

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(13) to prevent the sealing sleeve bulging between the teeth of the gripping ring.

5 9. A pipe coupling according to any of the preceding claims in which an inner sleeve (45) is provided inside the sealing sleeve to prevent the sealing sleeve bulging inwardly between the pipe ends.

REPLACED BY
ART 34 AMDT